



Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449B/PTO

INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT

Date Submitted: January 26, 2009

(use as many sheets as necessary)

## Complete if Known

Application Number	10/748,410
Filing Date	3/1/2004
First Named Inventor	Robert MARTUZA
Group Art Unit	<del>1044</del> 1632
Examiner Name	Wu-Cheng Winston Shen
Attorney Docket Number	066683-0198

Sheet 1 of 8

## U.S. PATENT DOCUMENTS

Examiner Initials*	Cite No. <sup>1</sup>	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number	Kind Code <sup>2</sup> (if known)			
	A1	5,585,096		Martuza et al	12/1996	
	A2	5,571,515		Scott et al.	11/1996	
	A3	6,699,468		Martuza et al.	03/2004	
	A4	5,728,379		Martuza et al.	3/1998	

## FOREIGN PATENT DOCUMENTS

Examiner Initials*	Cite No. <sup>1</sup>	Foreign Patent Document			Name of Patentee or Applicant of Cited Documents	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T <sup>6</sup>
		Office <sup>3</sup>	Number <sup>4</sup>	Kind Code <sup>5</sup> (if known)				
	A5		WO 96/00007		GEORGETOWN UNIVERSITY	01/1996		

## NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.) date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>6</sup>
	A6	D'Angelica et al., "In vivo IL-2 Gene Transfection of Implanted Tumors with HSV vectors Induces a Systemic Antitumor Response," Immunobiology #3020, <i>Proceedings of the 87<sup>th</sup> Ann. Mtg. of the Am. Assoc. Cancer Res.</i> , Vol. 37, (March 1996):	
	A7	Toda et al., "Intratumoral Inoculation of a Replication-competent Herpes Simplex Virus, G207, Induces an Antitumor Immune Response," Pharmacology/Therapeutics (Preclinical and Clinical) #1176: <i>Proceedings of the 88<sup>th</sup> Ann. Mtg. of the Am. Assoc. Cancer Res.</i> , Vol. 38, (March 1997).	
	A8	R.G. Vile et al., "Targeted Gene Therapy for Cancer: Herpes Simplex Virus Thymidine Kinase Gene-mediated Cell Killing Leads to Anti-Tumour Immunity That Can Be Augmented By Co-expression of Cytokines in the Tumour Cells," <i>Biochemical Society Transactions</i> , Vol. 25 (May 1997).	
	A9	Richard G. Vile et al., "Generation of an Anti-Tumour Immune Response in a Non-immunogenic Tumour: <i>J. Cancer</i> 71 (2) : 267-74 (1997).	
	A10	Wanli Bi et al., "An HSVtk-mediated Local and Distant Antitumor Bystander Effect in Tumors of Head and Neck Origin in Athymic Mice," <i>Cancer Gene Therapy</i> , 4 (4) : 246-52 (1997).	
	A11	S.J. Tapscott et al., "Gene Therapy of Rat 9L Gliosarcoma Tumors By Transduction With Selectable Genes Does Not Require Drug Selection," <i>Proc. Natl. Acad. Sci.</i> , 91 : 8185-89 (August 1994).	

Examiner  
Signature

/Wu-Cheng Winston Shen/

Date  
Considered

03/08/2009

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Unique citation designation number. <sup>2</sup> See attached Kinds of U.S. Patent Documents. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document.<sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449B/PTO		<b>Complete if Known</b>	
<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>		<b>Application Number</b>	10/748,410
Date Submitted: January 26, 2009		<b>Filing Date</b>	3/1/2004
(use as many sheets as necessary)		<b>First Named Inventor</b>	Robert MARTUZA
		<b>Group Art Unit</b>	<del>4644</del> 1632
		<b>Examiner Name</b>	Wu-Cheng Winston Shen
<b>Sheet</b>	2	<b>Attorney Docket Number</b>	066683-0198
	of		8

## NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.) date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>6</sup>
	A12	Sin-Ichi Miyatake et al., "Defective Herpes Simplex Virus Vectors Expressing Thymidine Kinase for the Treatment of Malignant Glioma," <i>Cancer Gene Therapy</i> , 4 (4) : 222-28 (1997).	
	A13	Matthew J. During et al., "Long-Term Behavioral Recovery in Parkinsonian Rats by an HSV Vector Expressing Tyrosine Hydroxylase," <i>Science</i> , Vol. 266, (November 1994).	
	A14	Peter A. Pechan et al., "A Novel 'Piggyback' Packaging System for Herpes Simplex Virus Amplicon Vectors," <i>Human Gene Therapy</i> 7 : 2003-13 (October 1996).	
	A15	Ann D. Kwong et al., "The Herpes Simplex Virus Amplicon," <i>Virology</i> 142 : 421-25 (1985).	
	A16	Pedro R. Lowenstein et al., "Herpes Simplex Virus (HSV-1) Helper Co-infection Affects the Distribution of an Amplicon Encoded Protein in Glia," <i>Molec. Neurosci.</i> , 5 (13) : 1625-30 (August 1994).	
	A17	Peyman Pakzaban, et al., "Effect of Exogenous Nerve Growth Factor on Neurotoxicity of and Neuronal Gene Delivery by a Herpes Simplex Amplicon Vector in the Rat Brain," <i>Human Gene Therapy</i> , 5 : 987-95 (August 1994).	
	A18	Howard M. Karpoff et al., "Prevention of Hepatic Tumor Metastases in Rats with Herpes Viral Vaccines and $\gamma$ -Interferon," <i>J. Clin. Invest.</i> pp. 799-804 (February 1997).	
	A19	Cindy Tung et al., "Rapid Production of Interleukin-2-Secreting Tumor Cells by Herpes Simplex Virus-Mediated Gene Transfer: Implications for Autologous Vaccine Production," <i>Human Gene Therapy</i> , 7 : 2217-24 (December 1996).	
	A20	Alberto L. Epstein, "HSV-1 Amplicons. Advantages and Disadvantages of a Versatile Vector System," <i>Restorative Neurology and Neuroscience</i> , 8 : 41-43 (1995).	
	A21	Alfred I. Geller et al., "An Efficient Deletion Mutant Packaging System for Defective Herpes Simplex Virus Vectors: Potential Applications to Human Gene Therapy and Neuronal Physiology," <i>Proc. Natl. Acad. Sci., USA</i> , 87 : 8950-54 (November 1990).	
	A22	Richard R. Spaete et al., "The Herpes Simplex Virus Amplicon: A New Eucaryotic Defective-Virus Cloning-Amplifying Vector," <i>Cell</i> , 30 : 295-304 (August 1982).	
	A23	F. Lim et al., "Generation of High-Titer Defective HSV-1 Vectors Using an IE 2 Deletion Mutant and Quantitative Study of Expression in Cultured Cortical Cells," <i>BioTechniques</i> , 20 (3) : 460-61 (March 1996).	
	A24	Giorgio Parmiani et al., "Cytokine Gene Transduction in the Immunotherapy of Cancer," <i>Adv. Pharmacol.</i> , 40 : 259-89 (1997).	
	A25	J.C. Glorioso et al., "Development and Application of Herpes Simplex Virus Vectors for Human Gene Therapy," <i>Annu. Rev. Microbiol.</i> 49 : 675-710 (1995).	

<b>Examiner Signature</b>	/Wu-Cheng Winston Shen/	<b>Date Considered</b>	03/08/2009
---------------------------	-------------------------	------------------------	------------

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Unique citation designation number. <sup>2</sup> See attached Kinds of U.S. Patent Documents. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document.

<sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449B/PTO		<b>Complete if Known</b>	
<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  Date Submitted: January 26, 2009  (use as many sheets as necessary)		Application Number	10/748,410
		Filing Date	3/1/2004
		First Named Inventor	Robert MARTUZA
		Group Art Unit	<del>1644</del> 1632
		Examiner Name	Wu-Cheng Winston Shen
Sheet	3	of	8
		Attorney Docket Number	066683-0198

## NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.) date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>6</sup>
	A26	Alfred I. Geller, "Influence of the Helper Virus on Expression of $\beta$ -Galactosidase from a Defective HSV-1 Vector, pHSVlac," <i>J. Virol. Methods</i> , 31 : 229-38 (1991).	
	A27	Alfred I. Geller et al., "A Defective HSV-1 Vector Expresses Escherichia coli $\beta$ -Galactosidase in Cultured Peripheral Neurons," <i>Science</i> , 241 : 1667-69 (September 1988).	
	A28	Todo et al., "Treatment of Experimental Brain Tumors by Induction of Systemic Antitumor Immunity Using a Replication-Competent Herpes Simplex Virus", <i>The 88<sup>th</sup> Annual Meeting of American Association of Cancer Research</i> (San Diego, CA), April 12-16, 1997.	
	A29	Daniel L. Shawler et al., "Gene Therapy Approaches to Enhance Antitumor Immunity," <i>Adv. Pharmacol.</i> , 40:309-37 (1997).	
	A30	R. Martuza et al., "G207: A Multiple Deletion Herpes Mutant for Brain Tumor", <i>J. Neuro.</i> , 82(2)377A, February 1995.	
	A31	M. J. Davidson et al., "Termination of the Sequence Alteration in the DNA of the Herpes Simplex Virus Type 1 Temperature-Sensitive Mutant ts K"; <i>J. Gen Virol.</i> (1984), 65:859-863.	
	A32	C. L. Nastala et al., "Recombinant IL-12 Administration Induces Tumor Regression in Association with IFN- $\gamma$ Production", <i>J. Immun.</i> , 153:1697-1706, August 1994.	
	A33	M. Toda et al., In Situ Cancer Vaccination: An IL-12 Defective Vector...Antitumor Activity", <i>J. Immun.</i> , 160: 4457-4464, May 1998.	
	A34	Restifo et al., <i>J. Immunother.</i> 14:182-190, (1993).	
	A35	Huang et al. <i>Science</i> , 264:961-965, (1994).	
	A36	Andreansky et al., <i>Canc. Res.</i> , 57:1502-1509, (1997).	
	A37	Qin et al. (1996) <i>Proc. Am. Assoc. Canc. Res.</i> , Vol. 37, page 339.	
	A38	Oppenheim et al., "Prospects for Cytokine and Chemokine Biotherapy", <i>Clinical Cancer Research</i> , Vol. 3, pp. 2682-2686, 1997	
	A39	Parmiani et al., "Cytokine Gene Transduction in the Immunotherapy of Cancer", <i>Adv. Pharmacol.</i> , Vo. 40, pp. 259-307, 1997	

Examiner Signature	/Wu-Cheng Winston Shen/	Date Considered	03/08/2009
--------------------	-------------------------	-----------------	------------

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Unique citation designation number. <sup>2</sup> See attached Kinds of U.S. Patent Documents. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document.

<sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449B/PTO		<b>Complete if Known</b>	
<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>		<b>Application Number</b>	10/748,410
Date Submitted: January 26, 2009		<b>Filing Date</b>	3/1/2004
(use as many sheets as necessary)		<b>First Named Inventor</b>	Robert MARTUZA
		<b>Group Art Unit</b>	<del>1644</del> 1632
		<b>Examiner Name</b>	Wu-Cheng Winston Shen
<b>Sheet</b>	4	<b>Attorney Docket Number</b>	066683-0198

**NON PATENT LITERATURE DOCUMENTS**

Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.) date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>6</sup>
	A40	Rollins, Barrett J., "Chemokines", <i>Blood</i> , Vol. 90, No. 3 pp. 909-928, 1997	
	A41	Andreansky et al., "Treatment of Intracranial Gliomas in Immunocompetent Mice Using Herpes Simplex Viruses that Express Murine Interleukins", <i>Gene Therapy</i> , Vol. 5, pp. 121-130, 1998	
	A42	Hu et al., "A Phase I Study of OncoVEX <sup>GM-CSF</sup> , a Second-Generation Oncolytic Herpes Simplex Virus Expressing Granulocyte Macrophage Colony-Stimulating Factor", <i>Clinical Cancer Research</i> , Vol. 12 (22), pp. 6737-6747, 2006	
	A43	Iida et al., "Protective Activity of Recombinant Cytokines Against Sendai Virus and Herpes Simplex Virus (HSV) Infections in Mice", <i>Vaccine</i> , Vol. 7, pp. 229-233, 1989	
	A44	Liu et al., "ICP34.5 Deleted Herpes Simplex Virus with Enhanced Oncolytic, Immune Stimulating, and Anti-Tumour Properties", <i>Gene Therapy</i> , Vol. 10, pp. 292-303, 2003	
	A45	Matsuo et al., "Interleukin-12 Protects Thermally Injured Mice from Herpes Simplex Virus Type 1 Infection", <i>Journal of Leukocyte Biology</i> , Vol. 59, pp. 623-630, 1996	
	A46	Parker et al., "Engineered Herpes Simplex Virus Expressing IL-12 in the Treatment of Experimental Murine Brain Tumors", <i>PNAS</i> , Vol. 97 (5), pp. 2208-2213, 2000	
	A47	Varghese et al., "Systemic Oncolytic Herpes Virus Therapy of Poorly Immunogenic Prostate Cancer Metastatic to Lung", <i>Clinical Cancer Research</i> , Vol. 12 (9), pp. 2919-2927, 2006	
	A48	Varghese et al., "Enhanced Therapeutic Efficacy of IL-12, but not GM-CSF, Expressing Oncolytic Herpes Simplex Virus for Transgenic Mouse Derived Prostate Cancers", <i>Cancer Gene Therapy</i> , Vol. 13, pp. 253-265, 2006	
	A49	Wong et al., "Effective Intravenous Therapy of Murine Pulmonary Metastases with an Oncolytic Herpes Virus Expressing Interleukin 12", <i>Clinical Cancer Research</i> , Vol. 10, pp. 251-259, 2004	
	A50	Wong et al., "Angiogenesis Inhibition by an Oncolytic Herpes Virus Expressing Interleukin 12", <i>Clinical Cancer Research</i> , Vol. 10, pp. 4509-4516, 2004	
	A51	Wong et al., "Cytokine Gene Transfer Enhances Herpes Oncolytic Therapy in Murine Squamous Cell Carcinoma", <i>Human Gene Therapy</i> , Vol. 12, pp. 253-265, 2001	
	A52	Maignier et al., "In Vivo Behavior of Genetically Engineered Herpes Simplex Viruses R7017 and R7020: Construction and Evaluation in Rodents", <i>The Journal of Infectious Diseases</i> , Vol. 158 (3), pp. 602-614, 1988	
	A53	MEKO et al., (1995) <i>Cancer Research</i> , Vol. 55(1), 4765-4770.	

<b>Examiner Signature</b>	/Wu-Cheng Winston Shen/	<b>Date Considered</b>	03/08/2009
---------------------------	-------------------------	------------------------	------------

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Unique citation designation number. <sup>2</sup> See attached Kinds of U.S. Patent Documents. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document.

<sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449B/PTO		<b>Complete if Known</b>	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT		Application Number	10/748,410
Date Submitted: January 26, 2009		Filing Date	3/1/2004
(use as many sheets as necessary)		First Named Inventor	Robert MARTUZA
		Group Art Unit	<del>1644</del> 1632
		Examiner Name	Wu-Cheng Winston Shen
Sheet	5 of 8	Attorney Docket Number	066683-0198

## NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.) date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>6</sup>
	A54	RAMSHAW et al., (1997) Immunological Reviews, Vol. 159, pp. 119-135.	
	A55	BRANSON et al., (1996) Human Gene Therapy, Vol. 7, No. 16, 1995—2002.	
	A56	TODA et al., "Treatment of Human Breast Cancer in a Brain Metastatic Model by G207, a Replication Competent Multimutated herpes Simplex Virus 1", Human Gene Therapy, 9:2177-2185 (October 10, 1998).	
	A57	Chahlavi et al. "Replication-Competent Herpes Simplex Virus Vector G207 and Cisplatin Combination Therapy for Head and Neck Squamous Cell Carcinoma", <i>Neoplasia</i> 1(2):162-169 (June 2, 1999)	
	A58	Toda et al. "Herpes Simplex Virus as an <i>in Situ</i> Cancer Vaccine for the Induction of Specific Anti-Tumor Immunity", <i>Human Gene Therapy</i> 10:385-393 (February 10, 1999).	
	A59	Nilaver et al. "Delivery of herpesvirus and adenovirus to nude rat intracerebral tumors after osmotic blood-brain barrier disruption", <i>Proc. Natl. Acad. Sci. USA</i> 92:9829-9833 (October 1995).	
	A60	Neuwelt et al. "Delivery of ultraviolet-inactivated <sup>35</sup> S-herpesvirus across an osmotically modified blood-brain barrier", <i>J. Neurosurg</i> 74:475-479 (March 1991).	
	A61	Walker et al. "Local and systemic therapy of human prostate adenocarcinoma with the conditionally replicating herpes simplex virus vector G207", <i>Human Gene Therapy</i> , pages 1-28 (In Press Sept. 1999)	
	A62	XO Breakefield et al. "New Biologist", 3:203-218 (1991)	
	A63	MCLAUCHLAN et al., "DNA Sequence Homology Between Two Co-Linear Loci on the HSV Genome Which Have Different Transforming Abilities", <i>THE EMBO JOURNAL</i> , Vol. 2, 1953—1961 (1983).	
	A64	SWAIN et al., "Herpes Simplex Virus Specifies Two Subunits of Ribonucleotide Reductase Encoded by 3'-Coterminal Transcripts", <i>Journal of Virology</i> , Vol. 57: 802—808 (1986).	
	A65	DUTIA, "Ribonucleotide Reductase Induced by Herpes Simplex virus Has a Virus-Specified Constituent", <i>J. Gen. Virol.</i> , Vol. 64:513—521, (1983).	
	A66	MCLAUCHLAN et al., "Organization of the Herpes Simplex Virus Type 1 Transcription Unit Encoding Two Early Proteins With Molecular Weights of 140,000 and 40,000", <i>J. Gen. Virol.</i> , Vol. 64:997—1006 (1983).	

Examiner Signature	/Wu-Cheng Winston Shen/	Date Considered	03/08/2009
--------------------	-------------------------	-----------------	------------

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Unique citation designation number. <sup>2</sup> See attached Kinds of U.S. Patent Documents. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document.

<sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449B/PTO		<b>Complete if Known</b>	
<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>		<b>Application Number</b>	10/748,410
Date Submitted: January 26, 2009		<b>Filing Date</b>	3/1/2004
(use as many sheets as necessary)		<b>First Named Inventor</b>	Robert MARTUZA
		<b>Group Art Unit</b>	<del>1644</del> 1632
		<b>Examiner Name</b>	Wu-Cheng Winston Shen
<b>Sheet</b>	6	<b>Attorney Docket Number</b>	066683-0198

## NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.) date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>6</sup>
	A67	MCGEOCH et al., "Comparative Sequence Analysis of the Long Repeat Regions and Adjoining Parts of the Long Unique Regions in the Genomes of Herpes Simplex Viruses Types 1 and 2", Journal of General Virology, Vol. 72: 3057-3075 (1991).	
	A68	PERRY et al., "DNA Sequences of the Long Repeat Region and Adjoining Parts of the Long Unique Region in the Genome of Herpes Simplex Virus Type 1", J. Gen. Virol. Vol. 69 2831-2846 (1988).	
	A69	JACOBSON et al., "A Herpes Simplex Virus Ribonucleotide Reductase Deletion Mutant is Defective for Productive Acute and Reactivable Latent Infections of Mice and for Replication in Mouse Cells", Virology, Vol. 173:276-283 (1989).	
	A70	SZE et al., "The Herpes Simplex virus type 1 ICP6 Gene is Regulated by a "Leaky" Early Promoter", Virus Research Vol. 26:141-152, (1992).	
	A71	GOLDSTEIN et al., "Herpes Simplex Virus Type 1-Induced Ribonucleotide Reductase Activity is Dispensable for Virus Growth and DNA Synthesis: Isolation and Characterization of an ICP6 lacZ Insertion Mutant", Journal of Virology, Vol. 62: 196-205, (1988).	
	A72	NIKAS et al., "Structural Features of Ribonucleotide Reductase", Proteins, Structures, Function and Genetics, Vol. 1: 376-384, (1986).	
	A73	HUSZAR et al., "Partial Purification and Characterization of the Ribonucleotide Reductase Induced by Herpes Simplex Virus Infection of Mammalian Cells", Journal of Virology, vol. 37:580-588 (1981).	
	A74	CAMERON et al., "Ribonucleotide Reductase Encoded by Herpes Simplex Virus is a Determinant of the Pathogenicity of the Virus in Mice and a Valid Antiviral Target", J. Gen. Virol., vol. 69:2607-2612 (1988).	
	A75	MCGEOCH et al., "Sequence Determination and Genetic Content of the Short Unique Region in the Genome of Herpes Simplex Virus Type 1", J. Mol. Biol. Vol. 181:1-13 (1985).	
	A76	MCGEOCH et al., "Complete DNA Sequence of the Short Repeat Region in the Genome of Herpes Simplex Virus Type 1", Nucleic Acids Research Vol. 14:1727-1745, (1988).	
	A77	MCGEOCH et al., "The Complete DNA Sequence of the Long Unique Region in the Genome of Herpes Simplex Virus Type 1", J. Gen. Virol. Vol. 69: 1531-1574, (1988).	
	A78	MCKIE et al., "Characterization of the Herpes Simplex Virus Type 1 Strain 17+ Neurovirulence Gene RL1 and Its Expression in a Bacterial System", the Journal of General Virology, Vol. 75:733-741 (1994).	
	A79	CHOU et al., "The Herpes Simplex Virus 1 Gene for ICP34.5. Which Maps in Inverted Repeats Is Conserved in Several Limited Passage Isolated but not in Strain 17syn+", Journal of Virology, Vol. 64:1014-1020 (1990).	

<b>Examiner Signature</b>	/Wu-Cheng Winston Shen/	<b>Date Considered</b>	03/08/2009
---------------------------	-------------------------	------------------------	------------

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Unique citation designation number. <sup>2</sup> See attached Kinds of U.S. Patent Documents. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document.

<sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449B/PTO <b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  Date Submitted: January 26, 2009  (use as many sheets as necessary)		<b>Complete if Known</b>	
		Application Number	10/748,410
		Filing Date	3/1/2004
		First Named Inventor	Robert MARTUZA
		Group Art Unit	<del>1644</del> 1632
		Examiner Name	Wu-Cheng Winston Shen
Sheet	7	of	8
		Attorney Docket Number	066683-0198

## NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.) date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>6</sup>
	A80	ROIZMAN et al., "Genetic Engineering of Novel Genomes of Large DNA Viruses", Science, Vol. 229:1208-1214 (1985).	
	A81	GOODMAN et al., "Identification, Transfer, and Characterization of Cloned Herpes Simplex Virus Invasiveness Regions", Journal of Virology, Vol. 63:1153-1161 (1989).	
	A82	CHOU et al., "The Terminal of Sequence of the Herpes Simplex virus Genome Contains the Promoter of a Gene Located in the Repeat Sequences of the L Component", Journal of Virology, Vol. 57:629-637 (1986).	
	A83	BOLOVAN et al., "ICP34.5 Mutants of Herpes Simplex Virus Type 1 Strain 17syn+ Are Attenuated for Neurovirulence in Mice and for Replication in Confluent Primary Mouse Embryo Cell Cultures", Journal of Virology Vol. 68:48-55 (1994).	
	A84	CHOU et al., "The $\gamma$ 34.5 Gene of Herpes Simplex Virus 1 Precludes Neuroblastoma Cells from Triggering Total Shutoff of the Protein Synthesis Characteristic of Programmed Cell Death in Neuronal Cells", Proc. Natl. Acad. Sci. USA Vol. 89:3266-3270 (1992).	
	A85	Bernard MOSS, "Genetically engineered poxvirus for recombinant gene expression, vaccination and safety", Proc Natl Acad Sci USA, Vol. 93. pp. 11341-11348, October 1996.	
	A86	Stephen H. THORNE et al., "The Use of Oncolytic Vaccinia Viruses in the Treatment of Cancer: A New Role for an Old Ally?", Current Gene Therapy, 2005, 5; 429-443.	
	A87	David BARBA et al., "Development of anti-tumor immunity following thymidine kinase-mediated killing of experimental brain tumors", Proc. Natl. Acad. Sci. USA vol. 91, pp. 4348-4352, May 1994.	
	A88	Robert M. BERMAN et al., "Systemic Administration of Cellular IL-10 Induces an Effective Specific and Long-Lived Immune Response Against Established Tumors in Mice", The Journal of Immunology 1996, 157:231-238.	
	A89	Mario P. COLOMBO et al., "Immunotherapy I: Cytokine gene transfer strategies", Cancer and Metastasis Reviews 16: 421-432, 1997.	
	A90	Jan Bubenik, "CYTOKINE GENE-MODIFIED VACCINES IN THE THERAPY OF CANCER", PHARMACOL. THER. VOL. 69, NO. 1, PP. 1-14, 1996.	
	A91	Andreas MACKENSEN et al., "Immunostimulatory Cytokines in Somatic Cells and Gene Therapy of Cancer", Cytokine and Growth Factor Reviews Vol. 8, No. 2, pp. 119-128, 1997.	
	A92	Jie WANG et al., "PARADOXICAL EFFECT OF GM-CSF GENE TRANSFER OF THE TUMORIGENICITY AND IMMUNOGENICITY OF MURINE TUMORS", Int. J. Cancer: 75, 459-466 (1998).	

Examiner Signature	/Wu-Cheng Winston Shen/	Date Considered	03/08/2009
--------------------	-------------------------	-----------------	------------

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Unique citation designation number. <sup>2</sup>See attached Kinds of U.S. Patent Documents. <sup>3</sup>Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup>For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document.

<sup>5</sup>Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. <sup>6</sup>Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

**Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.**

Substitute for form 1449B/PTO <b>INFORMATION DISCLOSURE          STATEMENT BY APPLICANT</b>  Date Submitted: January 26, 2009  <i>(use as many sheets as necessary)</i>				<b>Complete if Known</b>	
				Application Number	10/748,410
				Filing Date	3/1/2004
				First Named Inventor	Robert MARTUZA
				Group Art Unit	<del>154</del> 1632
				Examiner Name	Wu-Cheng Winston Shen
				Attorney Docket Number	066683-0198
Sheet	8	of	8		

[illegible]

Examiner Signature	/Wu-Cheng Winston Shen/	Date Considered	03/08/2009
-----------------------	-------------------------	--------------------	------------

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Unique citation designation number. <sup>2</sup> See attached Kinds of U.S. Patent Documents. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document.

<sup>5</sup>Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. <sup>6</sup>Applicant is to place a check mark here if English language Translation is attached.

**Burden Hour Statement:** This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. **DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO:** Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.